

MYL5 (E-14): sc-47207

BACKGROUND

Myosin interacts with actin to generate the force for diverse cellular movements, including cytokinesis, phagocytosis and muscle contraction. Myosin is a hexamer of 2 heavy chains (MHC) and 4 light chains (MLC), two of which are nonphosphorylatable alkali light chains and the other two are phosphorylatable regulatory light chains. Myosin regulatory light chain 5, also known as Myosin LC2, is encoded by the MYL5 gene and expressed in fetal muscle as well as adult retina, cerebellum and basal ganglia. Removal of light chains from Myosin reduces the velocity of Actin filaments. Reconstitution of Myosin with regulatory light chain 5 or alkali light chain increases filament velocity to intermediate rates, and readdition of both classes of light chains fully restores the original sliding velocity.

REFERENCES

1. Kuo, T.H. and Banerjee, S.K. 1983. Effects of removal of light chain 2 on the ATPase activities of cardiac myosin from normal and thyrotoxic rabbits. *Biochim. Biophys. Acta* 707: 199-205.
2. Lowey, S., Waller, G.S. and Trybus, K.M. 1993. Skeletal muscle Myosin light chains are essential for physiological speeds of shortening. *Nature* 365: 454-456.
3. Collins, C., Schappert, K. and Hayden, M.R. 1993. The genomic organization of a novel regulatory Myosin light chain gene (MYL5) that maps to chromosome 4p16.3 and shows different patterns of expression between primates. *Hum. Mol. Genet.* 1: 727-733.
4. Roulet, A., Burgat, J.M. and Cardinaud, R. 1993. The proteolytic susceptibility of specific sites in Myosin light chains is modulated by the filament conformation. *Eur. J. Biochem.* 216: 89-101.
5. Holt, J.C., Caulfield, J.B., Norton, P., Chantler, P.D., Slayter, H.S. and Margossian, S.S. 1995. Human cardiac Myosin light chains: sequence comparisons between myosin LC1 and LC2 from normal and idiopathic dilated cardiomyopathic hearts. *Mol. Cell. Biochem.* 145: 89-96.

CHROMOSOMAL LOCATION

Genetic locus: MYL5 (human) mapping to 4p16.3.

SOURCE

MYL5 (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of myosin regulatory light chain 5 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-47207 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

MYL5 (E-14) is recommended for detection of myosin regulatory light chain 5 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

MYL5 (E-14) is also recommended for detection of myosin regulatory light chain 5 in additional species, including canine and porcine.

Suitable for use as control antibody for MYL5 siRNA (h): sc-61126, MYL5 shRNA Plasmid (h): sc-61126-SH and MYL5 shRNA (h) Lentiviral Particles: sc-61126-V.

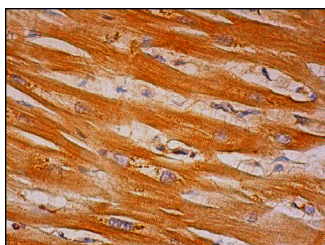
Molecular Weight of MYL5: 18 kDa.

Positive Controls: Y79 cell lysate: sc-2240.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



MYL5 (E-14): sc-47207. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

MONOS
Satisfaction
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Try **MYL5 (SB-19): sc-100952**, our highly recommended monoclonal alternative to MYL5 (E-14).